ABSTRACT

Telkom University's new lecture building called Telkom University Landmark Tower facilitates internet network services. However, it is still not optimal because there are obstacles. This situation does not happen to all users which results in a feeling of injustice for fellow users. With this, bandwidth management is needed, in this research using the Hierarchical Token Bucket and Per Connection Queue methods. HTB is a mechanism that can cut or limit the bandwidth that will pass through. PCQ is dividing bandwidth equally for traffic that the router can sort and works based on connections. The selection of the two methods was based on the differences in characteristics in carrying them out. This research was carried out through simulation and analysis of Quality of Service parameters. The research results concluded that the quality of the internet network in the Telkom University Landmark Tower building was still less than optimal because the Throughput parameter values were uneven with the highest value being 4446k and the lowest value being 982k, as well as an abnormal spike in Packet Loss with the highest value being 88.79% and the lowest value being 4.10%. , but no problems were found with the Delay and Jitter parameter values. The Hierarchical Token Bucket method is appropriate for use in the TULT building because it obtains a value with an average Throughput of 3166k, Packet Loss less than 1%, Delay 2.2 ms, and Jitter 2.8 ms, therefore the way the Hierarchical Token Bucket method works is very This means when the TULT building's internet network is receiving peak traffic.

Keyword- **Bandwidth Management, Hierarchical Token Bucket, Per Connection Queue, Quality of Service**